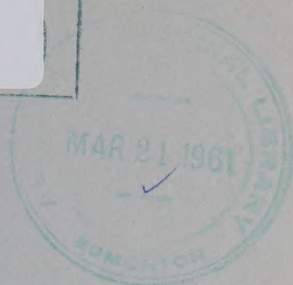


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## **ANNUAL REPORT**

OF THE

# **Department of Public Works**

OF THE

## **PROVINCE OF ALBERTA**

### **1959-60**

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PUBLISHED BY ORDER OF THE LEGISLATIVE ASSEMBLY

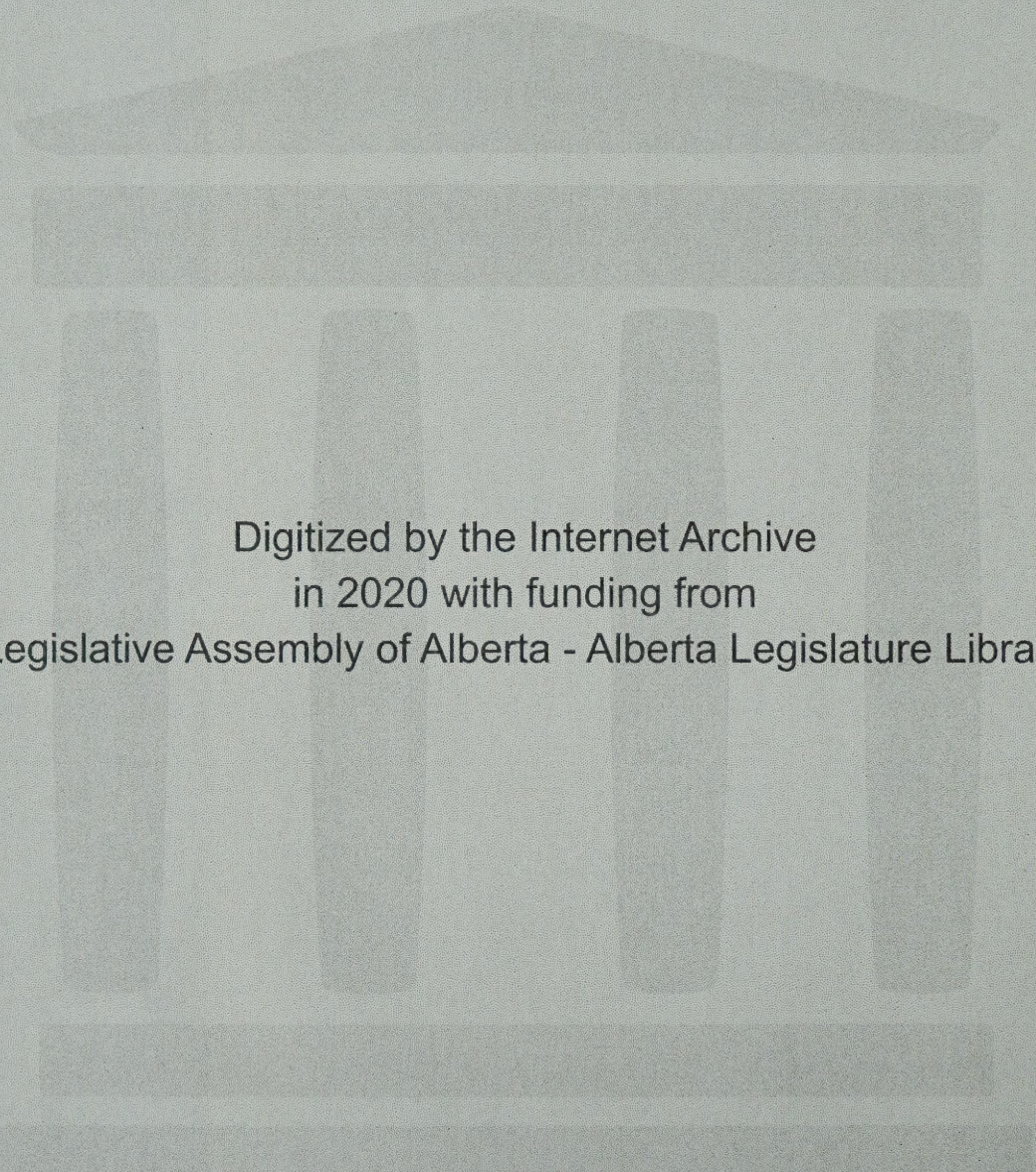
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EDMONTON, ALBERTA

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1961





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EDMONTON, January 3, 1961

To His Honour,  
J. PERCY PAGE,  
Lieutenant Governor of the  
Province of Alberta.

Sir,

The undersigned has the honour to submit herewith the  
Report of the Department of Public Works for the year ended  
March 31, 1960.

Respectfully submitted,  
JAMES HARTLEY,  
Minister of Public Works.

**DEPARTMENT OF PUBLIC WORKS**

Edmonton, Alberta,

January 3rd, 1961.

TO:

The Honourable James Hartley,  
Minister,  
Department of Public Works:

Sir:

I have the honour to submit herewith a report covering the activities of the Department of Public Works, for the fiscal year ending March 31, 1960.

During this past year the Department undertook an extensive programme of construction and maintenance, the details of which are contained in this report. As in other years, a number of photographs have been included to illustrate some of the more distinctive buildings that were under construction or completed in 1959-60.

The Mechanical Branch, which is responsible for the operation and maintenance of the power plants and steam services at the larger Provincial Institutions, continued this year to expand its services.

Probably the most outstanding projects, among the many that were undertaken last year, were those involving the commencement of construction of thirty-one Homes for the Aged and the extensive expansion of facilities at the University of Alberta, Edmonton and Calgary.

In addition to the projects under the attached report, the Architectural Branch of this Department continued to provide its services by way of detailed planning and design of a large volume of work for the Alberta Government Telephones. The Department also continued to design and construct facilities for the Alberta Liquor Control Board throughout the province.

Respectfully submitted,

ARTHUR ARNOLD,

Deputy Minister of Public Works.

## THE FUNCTION OF THE DEPARTMENT OF PUBLIC WORKS

The Department of Public Works is required to provide suitable accommodation, the necessary furnishing and equipment to all Departments of the Government so that the Departments may carry out the various functions required of them. Such accommodation is provided in buildings rented, purchased or constructed by the Department of Public Works.

The Department is responsible for the construction of all Provincial Government Buildings.

The chief officials of the Department are:

Minister of Public Works .....	Hon. J. Hartley
Deputy Minister of Public Works ...	Mr. A. Arnold
Assistant Deputy Minister of Public Works (Administration)...	Mr. S. E. Kenworthy
Chief Architect .....	Mr. H. A. Henderson
Chief Engineer .....	Mr. J. Hunt
Mechanical Superintendent .....	Mr. F. E. Coe
Administrative Accountant .....	Mr. K. C. Thomas
Supervisor of Maintenance .....	Mr. H. Brettelle
Supervisor of Construction .....	Mr. H. Kinsey
Co-ordinator of Works and Maintenance .....	Mr. V. C. Heim

The Department is also responsible for the servicing and maintenance of all Provincial Government owned buildings, with the exception of various self-contained institutions, such as the Provincial Gaols, the Schools of Agriculture, and the University of Alberta. The maintenance and servicing of these buildings needs the services of a large group of men of assorted technical skills. Carpenters, plumbers, electricians and other tradesmen keep these buildings in good repair. Gardeners maintain the surrounding grounds, which are quite extensive at some points, namely the Provincial Mental Institute, Oliver and the Institute of Technology and Art, Calgary. Caretakers keep the buildings clean, men operate the elevators, and watchmen guard the buildings at night.

The extensive programme of construction which we are presently undertaking, requires the services of a large staff of architects, engineers, draughtsmen, surveyors and building inspectors, who design and plan the buildings and supervise the work of the contractors. Some urgent and also minor construction work is undertaken by our own forces. This requires the Department to maintain a staff of tradesmen, which is augmented by temporary staff as the requirements of the work necessitates.



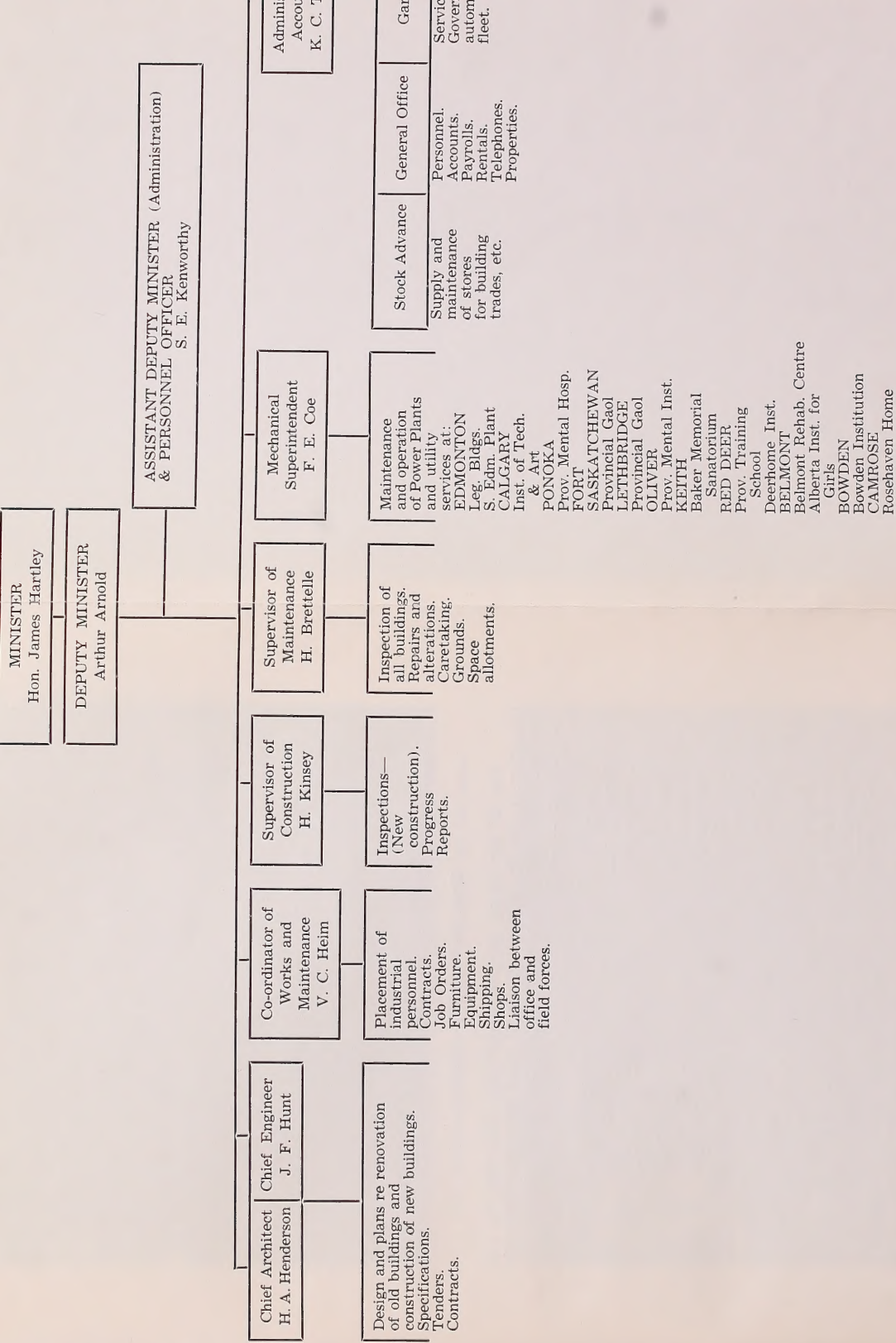
The Department operates various trade shops, where furniture and equipment, such as laboratory benches, etc., are made.

A group of engineers, firemen and tradesmen working under the direction of the Mechanical Superintendent is responsible for the supply of electrical power, heat, water and sewage disposal at the fourteen largest institutions. These men also design, install and maintain the special equipment necessary.

At these institutions farm machinery, milking, canning, laundry, kitchen and fire fighting equipment are also maintained and kept in good repair by this staff. The utilities and maintenance servicing of a large institution is comparable to the servicing of a town of two to three thousand people.

The Department also has a number of other functions, including the arrangements for the installation and rental of telephones, and when required the buying and leasing of lands for building sites.

A large modern garage located on the ground floor of the Public Works Building No. 2 in Edmonton services the automobile fleet of the Government.







Home for the Aged — Ponoka

One of the major projects undertaken this year by this Department was the commencement of construction of thirty-one Homes for the Aged, located at various centres throughout the Province, as follows:

Berwyn	Wetaskiwin
Bow Island	Brooks
Drumheller	Edson
Innisfail	Fort Macleod
Ponoka	High Prairie
Westlock	Lacombe
Athabasca	Mayerthorpe
Bonnyville	Medicine Hat
Camrose	Olds
Cardston	Pincher Creek
High River	Raymond
Lethbridge	Stettler
Rocky Mountain House	Vermilion
Spirit River	St. Paul
Stony Plain	Viking
Three Hills	

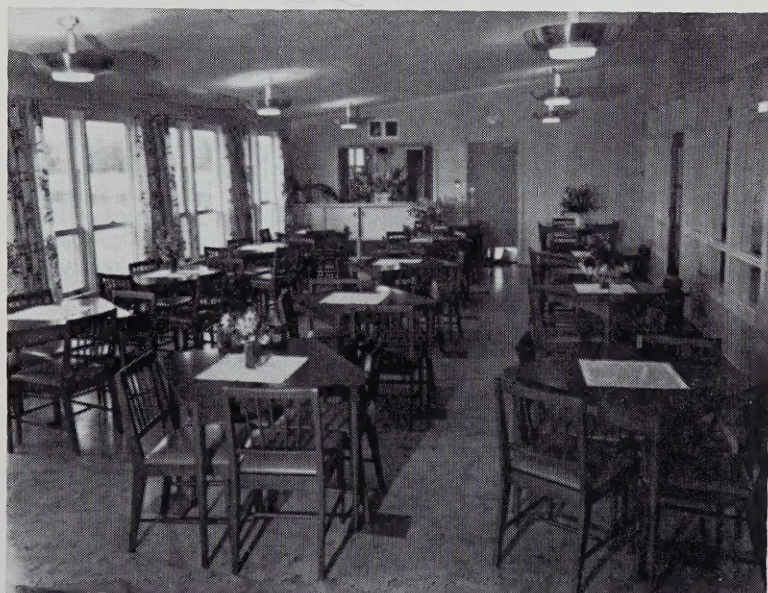
Each home is designed to accommodate fifty active elderly people.

The Government will bear the total cost of construction and furnishing, including furniture, bedding, kitchen and dining





The comfortable lounge of one of the Homes for the Aged.



The dining room adjacent to the lounge area.



room wares and equipment, towels, janitor equipment; everything necessary for the proper operation of these homes.

The homes will be constructed on acceptable lands provided by the municipalities in the areas where they are located. When the homes are completed they will be turned over to the municipalities which will maintain and manage the homes.

The basic idea of the final plan is the result of a province-wide competition which invited all residents of Alberta to submit sketch plans. The accepted sketch plan featured a "U" shaped single storey structure with an enclosed court yard between the arms of the "U". The bottom of the "U" contains:

1. A large visitors' room, where residents meet visiting friends and relatives, and a large library. Both of these rooms are located at either side of the main entrance, well lighted with full height windows.

2. A large and bright lounge facing west or south-west at most localities. This room is furnished with sofas and chairs arranged in small groups where the occupants may gather and entertain themselves or watch the burning logs in the large fireplace.

3. The room adjacent to the lounge is the dining room where the guests will be served by the staff. The dining room and lounge are divided by a 20 feet wide by 61 feet long hall which can be used for concerts, stage plays, etc.

4. The kitchen is completely equipped for every need. It contains a large walk-in cooler, a pump operated stainless steel dish washing unit, and a gas range. The kitchen is located along the service corridor with direct entrance from outside.

The legs of the "U" contain the single and double bedrooms. There are nine double and seven single bedrooms in each wing. Each bedroom has a private washroom equipped with washbasin, toilet and medicine cabinet. There is also a bathroom, shower room, janitor's room, and a day room opening into the courtyard in each wing. Total square footage of the main floor is approximately 13,000.

The basement is of reinforced concrete wall and wood joists except over the boiler room and locker room which is reinforced concrete slab. Walls are wood and concrete blocks. The floors are scaled concrete, slab reinforced.

Included are a locker room with fifty-one large lockers where personal belongings can be stored and a storage room which can be converted into a workshop eventually. The total area of the basement is 1,900 square feet.

The construction of the building is built-over crawl space. The roof is a low pitched build-up roof on 2 inches thick insulation deck. The interior finish of walls and ceiling is gypsum lath



and plaster. Acoustic tile fields cover the ceiling in the dining room and lounge. Another feature of the dining room lounge, occupational therapy room, library and visitors' room, and kitchen is that no ceiling joists have been installed, thus creating a feeling of spaciousness when entering these rooms. Floor tile and sheet linoleum have been used throughout the entire building except in shower room where ceramic tile was installed. In colouring of rooms, pastel colours have been selected for quiet appearance. The same principle was applied when selecting drapes and carpets for the home.

The exterior finish is predominantly stucco. In selecting a stucco finish, economy and ease of maintenance were the deciding factors since some of the homes, especially in rural areas, may lack skilled labour for repair and replacement of some other type of finish. Cedar siding has also been installed, mainly at main entrance and on exterior walls of lounge, dining room and bedroom wings.

The courtyard is enclosed by a fence providing complete privacy for residents. It is completely landscaped, lawn surfaces extending the full length and width. Concrete slab walks connect the entrances, the day rooms, the occupational therapy room, and the gravelled patios. All around the courtyard perennial plants and shrubs will be planted to provide a homelike and quiet atmosphere.

Mechanical services for the homes include a hot water heating system, a ventilation system, an exhaust system from certain areas and all plumbing services.

In all the bedrooms heating is from hot water radiation fin vectors, pneumatically controlled by thermostats.

In the lounge, the library, the office, the waiting room and the corridors, a fin vector radiation system is used with supply air brought from the ventilation unit.

Exhaust from the kitchen, washrooms and laundry room is via separate multi-speed exhaust fans, some automatically and some manually controlled.

Complete self-contained refrigeration and freezer units are utilized in each home. Each home contains a large kitchen, completely equipped.

Natural gas or propane gas is utilized for all gas burning equipment which includes the boiler, the hot water heating tank, the kitchen stove and oven and miscellaneous equipment.

All controls such as valves, thermostats, ventilation machine controls, boiler controls and hot water heating system are controlled by automatic pneumatic control systems with manual controls incorporated.

Hot water for domestic use is obtained from a hot water heater supplying hot water to all washrooms and the kitchen.

### **BARRHEAD**

A site was obtained and cleared and plans have been prepared and tenders called in order to permit commencement of construction of a Provincial Building at this point in the Spring of 1960.

### **BEISEKER**

A weigh scale was constructed at Beiseker for the Department of Highways, Highway Traffic Board.

### **BELMONT**

The Department commenced construction of a gymnasium at the Belmont Rehabilitation Centre for men. The gymnasium is connected via a tunnel with the main building and is constructed of precast concrete roof beams and cast in place columns and concrete block walls.

The planned construction of an underground water storage reservoir to provide further fire protection was not undertaken this year. The likelihood that the City of Edmonton will annex land close to the institution makes the reservoir unnecessary.

The landscaping program continued as did the construction of roads and walks.

At the Alberta Institution for Girls, which is located on a five acre site adjacent to the Belmont Rehabilitation Centre, a garage and storage building were erected to complement the building constructed last year.

### **BOWDEN**

A root house was constructed at Bowden Institution to provide vegetable storage. A walk-in deepfreeze was added to the kitchen to further improve the storage facilities. Certain alterations were made, and controls added, to dormitory ventilation units.

The planned construction of an iron removal plant to treat the institution's water supply was held up pending the results of well drilling operations to augment the available supply.

### **BROOKS**

No major construction was undertaken at Brooks Demonstration Farm. Land levelling operations were carried out and entrance roads were improved. Further plans to construct a sewage lagoon were set aside until the results of chemical treatment to the existing septic tank were known.



## CALGARY

Work continued and construction was completed on the new Cancer Clinic in Calgary. The building has been constructed north of the Holy Cross Hospital and will provide the following services: examination rooms, X-ray suites, laboratories, cobalt treatment and deep therapy rooms, administration services, waiting rooms, staff accommodation, and laundry and boiler room plant. Construction of the Cancer Clinic is of a reinforced concrete frame structure with reinforced concrete joist floor and roof slabs. Exterior walls are of hollow clay tile back-up face brick veneer. However, to the west elevation, construction is of insulated porcelain enamelled panels with wood sash. The interior partitions are of wood and hollow clay tile. The floor coverings are of linoleum vinyl and rubber tile, mosaic tile and terrazzo. The surgery finishes are of plaster throughout except in designated areas where glazed ceramic tile dado is used. Ceiling finishes are of plaster and acoustic tile. Special mention should be made of the cobalt treatment rooms and deep therapy room. This unit is constructed of solid concrete with walls that vary in thickness up to 3 feet, 10 inches. To each room is an observation window consisting of lamination of leading glass with lead frame and lining surrounding the window. The cobalt bomb units and deep therapy equipment and diagnostic X-ray equipment are supplied and installed by the Department of Health. This clinic is connected to the Holy Cross Hospital by an underground tunnel so that patients may be brought from that hospital for treatment. In addition, an ambulance entrance with ramp is provided for patients from other hospitals throughout Southern Alberta.

Work continued at the Calgary Provincial Gaol with the initial phase of construction being completed. The description of Phase II of this institution which was begun in the year 1959 is as follows: Work has started on the second phase to construct a maximum security cell block and a medium security dormitory which are to supplement the existing minimum security institution. When completed this addition will provide the following accommodation: 92 inmates in individual cells in a cell block wing with three floors, 84 inmates in dormitories of 14 in a dormitory wing. In addition to sleeping accommodation, a gymnasium and a library, together with a laundry and power plant, are to complete the whole institution. Some changes are anticipated in the existing administration section to take care of the more than doubled population of the finished project. The new cell block, gymnasium and dormitory, together with the library and storage wing, form an "E" shape plan to complement the "E" layout of the existing building. The two buildings are to be connected with the centrally located power plant, laundry and new reception area, all arranged in a straight wing at the east. The construction of this addition is in strict accordance with existing standards established in Phase I. The maximum security portion, the cell block, is poured-in place reinforced



The Cancer Clinic, shown following completion last autumn.



A view of the maximum security area, Calgary Provincial Gaol, at the start of construction of Phase II. The wing comprising Phase I may be seen in the background.





University of Alberta, Calgary, the Arts and Education Building on the left and the Science and Engineering Building as they approached completion.



The Court House in Calgary, showing the skeleton framework, hoarded in for winter construction.

concrete construction throughout with the exception of exterior walls where precast concrete "sandwich" panels will be used in keeping with the balance of the building. All windows, cell fronts and the majority of doors are that of security type with tool proof reinforcements. All units like the cell block and the dormitory, have their own enclosed exercise yards immediately adjoining, providing a degree of separation of different groups in outside recreation. These yards are to be paved and are to have high concrete walls between buildings. In addition, four stall houses have been built, as well as a complete new Water Treatment Plant.

After the sod turning ceremony on October 1st, 1958, plans were completed and construction was started on the Arts and Education Building and the Science and Engineering Building, University of Alberta, Calgary. These buildings are scheduled for completion by the Summer of 1960. The description of these buildings is as follows: Although these two buildings were constructed under separate contracts, they constitute the first development of the new campus of the University of Alberta, Calgary. Tenders were called on July 30th, 1959 and the contracts were awarded on September 30th, 1959. Construction was continued through unusually cold weather in the Spring of 1960, and the completion is expected in the Fall of 1960. The construction is of reinforced concrete throughout with masonry exteriors consisting of precast terrazo and re-constructed granite. Windows are of wood frame while entrances are aluminum. The Science and Engineering Building especially contains an unusually large amount of mechanical services and an extensive complement of laboratory benches. Both buildings have a full basement and two full floors above grade, while the Science and Engineering Building has in addition a third floor penthouse with a greenhouse. The total floor areas are approximately 127,000 square feet for the Science and Engineering Building and approximately 115,000 square feet for the Arts and Education Building. A separate contract was let for a service elevator.

A major project in the Calgary area was the commencement of a new Court House. This building will fill the pressing need for the Southern area of the Province and is designed to meet the needs of this area for many years to come. This new Court House, which is scheduled for completion in July 1962, is a steel framed building with reinforced concrete sub-structure and prestressed concrete floors. The building is faced on the exterior with granite and marble and has extensive panelling of exotic woods throughout the interior. The quality of materials generally is in keeping with the dignity of the function of the building. The first contract for the foundations and structural steel was commenced in April 1959. The building will contain a total of 135,750 square feet and as well as accommodation for an R.C.M.P. Court, Citizenship Court and a Small Debts Court, houses twelve main courtrooms with their ancillary accommodation. Also provided will be Judges' Chambers, Judges' Private Rooms and Library, Lawyers' Library, offices for the Sheriff



and the Clerk of the Courts and their staff, and accommodation for Court Reporters and for Adult and Juvenile Probation Services. A cafeteria will also be provided.

At the Provincial Institute of Technology and Art construction of a garage and storage building was completed. The basement areas of the new East Block were completed with facilities for student organizations. The street lighting, paving and landscaping program continued.

### **CANMORE**

At the Ranger Station site at this point, a new foundation was constructed for a staff house and a number of old buildings were demolished as part of the program of improving the site.

### **CLARESHOLM**

At the Provincial Auxiliary Hospital construction was begun on a new Kitchen, Laundry and Power House Building. This building follows on the completion of the first of numerous dormitory buildings which are to be constructed to make this into one of the major centres in the Province for the care of the mentally ill. This building provides new accommodation for a kitchen, laundry and central heating plant. The building is a one storey structure with a full basement, the basement being used for storage for the kitchen and for ironing and repair of linen. The area per floor is 20,240 square feet. The structure is a poured-in place concrete sub-structure with a steel frame and poured-in place concrete floor and roof slab. The exterior finish is brick and precast concrete panels. Interior partitions are mainly spectra glaze and floor finishes are terrazzo or quarry tile. The services and equipment for the building are set up to accommodate an eventual population of 700, inclusive of staff.

### **COUTTS**

A weigh scale was constructed at Coutts for the Department of Highways, Highway Traffic Board.

### **EDMONTON**

Construction continued on the Clinical Services Addition to the University of Alberta Hospital. The building itself is located at the north end of the present University of Alberta Hospital and projects eastward to match the 1950 addition to this hospital. The structure is of steel frame with masonry walls and stone veneer and will match the existing hospital insofar as materials are concerned. However, its design is of contemporary

nature and will add a pleasing contrast to the present structure. Many varied facilities will be provided by this building. On the lower floor, facilities will be provided for a complete medical records department and X-ray storage. Staff facilities will also be in this area and a small chapel will also be available for patient use for meditation and such devotional services as may be desired. The chapel will be non-denominational. The main approach to this building is on the second floor and there will be the admitting area for all patients on this floor, whether they be in-patients, out-patients or emergency patients. A large clinic for out-patients is developed for this area and this will replace the present outdoor clinic of the University of Alberta Hospital which is located in downtown Edmonton. Also located on this floor will be the admitting department for the entire hospital and from this point all in-patients will be dispersed to their various wards. A complete clinical laboratory department is planned for the third floor. This will take care of all laboratory services throughout this 1,200 bed institution. Likewise, the fourth floor will provide complete X-ray facilities for treatment and diagnosis. From the exterior appearance of the building, the fifth floor will express itself as a blank wall and this will contain the operating room suites. On this floor there will be fourteen windowless operation rooms which will be equipped with the very latest in equipment and are of ample size for present, as well as anticipated future medical needs. Two of these operation rooms are equipped with overhead observation galleries for the training of medical students. In addition to allowing students to observe in close detail the operation under performance, there is also an inter-communication system through which the surgeons will be able to interpret to the students the procedures being carried on. A new obstetrics' department will be located on the sixth floor. Mechanical services to completely air-condition this building will be on the remainder of this floor. When this six storey structure has been completed, the fifth floor of the original hospital will be demolished and replaced with fifth and sixth floors so that there will be a complete horizontal tie between the new addition and all present facilities throughout the hospital. With this system in operation, it will be possible to locate the maternity section on the upper floor, completely isolated from all other departments. The fifth floor will be surgical throughout its entire horizontal direction and the third and fourth floors will be devoted to general nursing and hospitalization usage. Further development will be made to the rear of the Clinical Services Addition when this building has been completed. This will include the erection of new shops maintenance departments, increased laundry facilities, with morgue attached, and a small lecture amphitheatre for student instruction. In this amphitheatre, it is planned to have a television monitor which will have direct communication to two of the operating rooms, whereby large gatherings of students or members of the medical profession can observe operations in progress.

Construction continued on the Centre Wing, Medical Building, University of Alberta, which is an addition to the exist-





University of Alberta Hospital buildings, showing the Clinical Services Addition at right centre. The University may be seen to the upper left.



The emergency entrance at the Clinical Services Addition.

ing Medical Building and will provide accommodation for the Schools of Dentistry, Pharmacy, as well as space for surgical research, bio-chemistry, the School of Nursing, and animal quarters. It is a seven storey structure, 234 feet by 75 feet, of steel and masonry with the exterior designed to match the existing building. Perimeter radiation with steam is used for heating and the whole building is ventilated with some areas equipped for controlled temperature experiments. This addition will give the Province one of, if not the best, dental schools in Canada. The new space provided for pharmacy will release much needed space in the older portion for classrooms, etc.

The existing Engineering Building on the University Campus has become inadequate to meet the demands of the increased enrolment of students and this is the reason for the construction of an addition to the Engineering Building. Construction commenced on the addition, and the new building will run at right angles to the existing building and will consist of a basement and five stories and will provide an additional floor area for 106,000 square feet. The major occupancy of this new building will be the Department of Electrical Engineering, with certain portions devoted to the Civil and Mechanical Departments. The old and new buildings will be separated by an 80 feet high tower containing the main staircase. This tower will be faced with coloured glass mosaic tiles laid in the form of a mural depicting the various facets of the engineering profession. The new building is being constructed under three contracts. The first contract is for the concrete foundation walls, footings and piles. This contract has now been completed. The next contract is for the supply and erection of the structural steel framing and this work has just been commenced. The final contract is for the general completion of the building, the tenders for this portion having closed January 21, 1960. External walls will be of two types, face brick and precast slabs. The structural columns will project from the face of the building and will be faced with artificial stone; intermediate mullions will be faced with porcelain enamel. The back-up walls and internal partition walls will be in concrete block. Windows will be in wood with double sealed glazing. Floors will be in reinforced concrete of fireproof construction. The ventilating plant is located in a penthouse on the roof and heating will be by steam supplied from the University Power Plant to the east of the building. The electrical installation has seven different types of power for the laboratories. The unit sub-section is rated at 1500 KVA. Lighting levels are in accordance with the latest published requirements.

Work continued on the construction of the Physical Education Building, located south of 89th Avenue and connected to the west end of the Students' Union Building at the University of Alberta. The building, complex designed by the Provincial Department of Public Works, is composed of three units:

1. The Administration Building
2. The Ice Hockey Rink
3. The Gymnasium-Swimming Pool Building



The main entrance is located in the Administration Building and direct passage between the three units is provided by corridors. The Administration Building of two floors has brick faced exterior walls. The interior walls are painted concrete blocks and glazed partitions. The lower floor contains the wrestling room, weight lifting room, remedial gymnasium and a room for individual exercise, various store rooms, and a freezing plant for the ice hockey rink. The ice hockey rink, with separate entrance and coat check room in the Administration Building, is a prestressed reinforced concrete structure. The exterior walls are precast concrete panels. At the entrance, the lower and upper lobbies open on to the ice rink. The lower floor, below the bleachers at ice level, contains team rooms with shower rooms, washroom and storage for different purposes. The building will house 2,500 spectators. The Gymnasium-Swimming Pool wing is a three level reinforced concrete structure with some prestressed elements. Exterior walls are a combination of precast concrete panels and face bricks. The main corridor at first level has an entrance from the parking space. This floor mainly consists of a Women's Gymnasium, locker rooms with showers and washrooms, equipment rooms, laundry and store rooms. The swimming pool, which can be entered from the locker rooms only through the shower rooms, is equipped with a one metre and a three metre diving board. The dimensions of the pool permit it to be used for international contests. The pool room is designed with bleachers, seating approximately 400 spectators. Stairs from the main corridor enter the second and third levels, the major part of which contains the main Gymnasium. This gymnasium has both fixed bleachers and movable bleachers, seating some 2,000 persons. The remaining space at these levels is taken up by team rooms, referees' room, first-aid room, staff locker rooms and washrooms, library, and offices.

Construction continued on the Physics-Chemistry-Mathematics Building at the University of Alberta, Edmonton. This will ultimately be a seven million dollar project and will be the largest building on the University of Alberta Campus. The building will house the Departments of Physics, Chemistry and Mathematics, as well as having a major library and fourteen multi-purpose amphitheatre type classrooms for general use on the University of Alberta Campus. The building is of steel skeleton with brick exterior to match the adjacent campus buildings. The Physics-Chemistry-Mathematics Building consists of five self-contained but inter-connected units, namely, Chemistry Building, Physics Building, Classroom Wing, Library and Lecture Theatre, grouped around a rectangular centre court laid out with lawns walks and a centre pool which is accessible from all units. The entire project is of steel frame construction with concrete floors throughout. Brick facings with precast concrete trim have been used almost exclusively for the exterior finish, with an interior backing of precast concrete blocks. Main entrances to the Chemistry, Physics and Library Buildings are each approached by a concrete stairway, enclosed by aluminum framed window

walls and doors, and the floor finish is terrazzo. Window frames in the Chemistry and Physics units are of wood with awning type casements, and aluminum framed window walls provide adequate light in other units of the building. The Chemistry unit is five stories in height, excluding basement and mechanical penthouses, and contains undergraduate, graduate and research laboratories, ranged on both sides of the centre corridor, which runs the entire length of the building. The Physics unit is six stories high, excluding basement and penthouses, and is of the same design. Each of these units has three stairways of steel pan and terrazzo fill construction and two elevators with provision for a future third. Interior wall finishes are exposed concrete block with plywood covered stud partitions in some areas. All corridor and staff office floors are finished in linoleum tile. The Classroom Wing encloses two sides of the centre court and is one storey above grade with basement and has fourteen classrooms with a total capacity of 1,316 students. Each classroom has tiered seating for maximum visibility and is equipped with a projection screen. Lecture preparation rooms are located between classrooms at basement level and there is adequate space provided in the same locations on the main floors. A terrazzo covered concrete stair connects main floor with basement and floors throughout are finished in linoleum tile. Walls of classrooms are exposed concrete block and plaster with acoustical ceiling and rear wall. The Library is located between the Chemistry and Physics units and is one storey above grade, with basement. The basement portion is of sufficient height to accommodate a mezzanine which provides additional book storage and the whole unit is well equipped for textbook and periodical reference. Exposed wall surfaces are plaster finished and the floors are linoleum tile. The first floor comprises a large entrance hallway and students' lounge, which have the same finish as the library. The Lecture Theatre forms and adjunct to the Physics unit but is intended for general use by all departments. This unit comprises three floors with entrance lobby at grade level, lower lobby below and exhibition floor above, the last named giving access to the auditorium with a seating capacity of 396. The auditorium has a projection room, large projection screen and chalkboard, and has been designed for maximum acoustical efficiency. Wall finishes are mahogany veneer, decorative metal and plaster, and the floors are terrazzo. Two metal pan terrazzo open staircases connect the floors and a cloakroom is located on the entrance lobby floor.

Work also continued on the South Power Plant, University of Alberta, which was completed this fiscal year. The new Power Plant is designed to supply all Government buildings south of 87th Avenue in this area. An economic analysis indicated that since electricity was in demand throughout the year and that additional steam was needed only during a portion of the year, a device which would generate electricity as a main product and still be able to produce steam as a by-product would be most desirable. Further investigation proved the economical justification of a gas turbine power plant. Coincidental with the above





A view of the University of Alberta, showing the Physical Education Building under construction.



The new Public Works Power Plant (South).

analysis, the English Electric Company of Rugby, England, offered to the University of Alberta, a commercial sized gas turbine, complete with waste heat steam boiler at a reduction of \$100,000.00 if it was installed so that engineering students could observe its operation. The offer was turned over to the Government and after further negotiations was accepted. The Plant serves the electrical needs of all buildings and through interconnection of the steam piping, ensures adequate steam supply. Since it can be started within three minutes, it will also serve as an emergency power plant for the hospital. While all standard services are interconnected, consideration was given to the emergency problem and wherever possible, self-sufficient units have been incorporated. The switch gear and electrical services are designed for future expansion so that this can be installed as the need arises with minimum delay and outage. This building is of concrete block and brick design, single storey power plant area, with workshop and office spaces included in a multi-storey bay. Soundproofing and noise reduction have been incorporated as an essential feature of the building. This building is in harmony with its surroundings and forms an integral portion of the cultural, educational and hospital facilities provided by the Government of Alberta.

Construction commenced on the Van de Graaf Generator Building this year. This single storey building of 3,250 square feet was designed to the specific requirements of the physicists of the University of Alberta. The accommodation comprises the Van de Graaf Generator room, a target room, a control room, a suite of offices, a workshop area and a toilet. The site of the building (adjacent to the Physics-Chemistry Building) was selected by the University authorities as the most suitable, bearing in mind its co-operative purpose and the dual use of services by means of a metal duct below ground from Physics-Chemistry. The external walls of the building generally are constructed with an 8 inch concrete block inner skin and a 4 inch brick outer skin. The outside walls of the target room are composed of low density material (wood) to avoid reflecting the rays from the generator. Internally, the dividing walls are mostly 12 inches thick concrete to provide radiation protection. The building has no basement, but immediately below the target in the target room a large pit was provided. This prevents disturbance of the force fields when the generator is in use. The floor over the pit consists of a light metal deck with a "Masonite" topping. Externally the building is red brick with wood windows, varnished cedar panelling form window aprons. Internally, the concrete block walls and the cast-in-place concrete walls are painted light colours, with some walls picked out in primary colours for effect.

The paving of roads and sidewalks was also continued throughout the University area.

The year 1959 was the year of the Royal Visit of Their Majesties, Queen Elizabeth II and the Duke of Edinburgh, and the Department of Public Works was placed in charge of preparations





The Legislative Grounds shown as they appeared shortly before the visit of Her Majesty Queen Elizabeth and Prince Phillip.



A view of the grounds from the dome atop the Legislative Building.

for the Government garden party held on the grounds of the Legislative Building. A great deal of preparation was involved in the beautifying of the grounds and gardens for the execution of this very successful function. Among the structures built for this occasion were the beautiful reinforced concrete band shell in the form of a petal and a new Club House in connection with the bowling greens on the Legislative Building grounds. The Club House was not only a part of the 1959 land beautification programme, but also is to be used for the 1960 Dominion Lawn Bowling Championships which are to be held in Edmonton. A further project in this connection was the re-construction of the main staircase and sidewalks on the Legislative Building grounds to replace the very dilapidated steps and walk-ways. The gardening staff of the Department expended a great deal of effort in preparation of a beautiful site in which to receive the Royal visitors. On the day of the visit numerous marquees were erected on the grounds and the overall picture was one of great beauty and festivity.

### EDSON

A new Provincial Building was started this year on the site of the present Provincial Building. Construction is such that all departments using the old building will be able to carry on with their work as the new building rises around them. This has created a major construction problem, but because of the desirability of the site, it was felt that this was the proper location in which to erect a new and more efficient building. The construction is of steel framed structure, 130 feet by 100 feet of concrete block masonry exterior and interior walls and concrete floor and roof slabs supported by short span steel joists. The front or west elevation has brick veneer panels between windows with columns and beams faced with a unique new material known as Marbled. This is a pre-cast type of material which gives the effect of granite and is manufactured in Edmonton. Windows are of wood and double hung. The three separate entrances are aluminum. This building initially has a basement floor, first and second floors with provision made for a future third floor. Space is provided for a Treasury Branch and Liquor Store, the Department of Highways Maintenance Branch and Driver Examination on the first floor. The Department of Lands and Forests, Forestry Branch and Fish and Wildlife Branch, also the Attorney General's Department, with space for a Court Room, Magistrate's Office and Judge's Office, are all located on the second floor. In addition to the above, there are two locations designated unassigned office space, one on the basement floor and the other on the first floor. On the basement floor is a meeting room for the use of various associations or societies, etc. The Treasury Branch and Liquor Store each have their own basement floor accommodation.

The ten stall garage for the Department of Lands and Forests, which was started in the previous year, was completed.



## **FORT SASKATCHEWAN**

An addition to the main kitchen for the male cell block was undertaken this year at the Provincial Gaol. This kitchen will modernize the very inefficient operation that has existed at this institution.

## **HINTON**

The Forestry Ranger School was constructed on the outskirts of Hinton. This is a two storey building whose appearance harmonizes with the landscape and provides necessary facilities for the needs of the teaching staff and students. The construction of this building is the first phase of a program which will eventually include a dormitory addition, a gymnasium and classrooms. On the lower floor of the present building is a large room divided up into cubicles, each cubicle providing sleeping accommodations for two students. There is also sleeping accommodations for four instructors. There is also a well lighted room used as a classroom and equipped with audio-visual blinds on windows. There is also a washroom and space for the storage of luggage and equipment. The main floor houses the offices, the lounge, the dining room, the kitchen and the storage room. The lounge is a wide and bright room with continuous windows on both sides. The heavy wood deck is supported on wood trusses spaced at 12 feet O.C. and stained to match the wall panelling. To complete this open space atmosphere, a huge fireplace was completed of local stone, this being the main attraction of this room. The kitchen is equipped with modern appliances, including a large walk-in cooler, and is separated from the dining room by a counter to provide cafeteria style meal service. A hydraulic hoist was installed to facilitate the delivery of various kitchen supplies. The entire building is constructed of wood frame on concrete walls and footings. Plaster was used for interior wall and ceiling finish throughout the whole building, except in the lounge where fir deck and some wood panelling were installed. Linoleum and vinyl asbestos tile were used as a floor finish on the upper floor with asbestos tile on the lower floor. The exterior finish consists of cedar siding, stucco and painted asbestos board. All rooms were furnished with modern, sturdy and comfortable furniture in selected finishes and colours that will stand up to use and also will blend harmoniously with the decor. Landscaping around the building has been started this fall, while seeding and planting are expected to be completed in 1961. An all-weather gravelled road was built from the highway to the school to provide an all year round access.

## **GRANDE PRAIRIE**

A Carpenter Shop for northern area Department of Public Works was completed this year.



The Forestry Ranger School at Hinton, showing its rustic appearance, designed to harmonize with the surroundings.



The Parkland Regional Library at Lacombe.



### **LACOMBE**

Construction commenced on a Regional Library which is the first of what is hoped will be a series of such units. It is to be a central depository for books, available to group borrowers such as schools, community libraries, etc. The building itself is a one storey unit, 50 feet by 67 feet, of concrete block and stucco, accommodating staff offices, a cataloguing department, and a circulating department. The basement area is used as a repair depot and for minor binding. The rear section is a large storage area where the books are kept when not in circulation.

### **LETHBRIDGE**

Irrigation water is drawn from the St. Mary's River Development Irrigation Scheme, and in the Fall of 1959 and again in the Spring of 1960 this Department hired the services of a local ditcher at Lethbridge, together with gaol inmates' labour, and completed a programme of cleaning and repairing main ditches in the Provincial Gaol irrigation scheme. Considerable work was done, including re-building ditch turnouts, weirs, stop gates, boxes, etc., the result being an improvement in the operation.

### **OLDS**

The past year saw the commencement of construction of a new Dairy Barn at the Olds Agricultural School.

### **OLIVER**

Two projects undertaken in the previous year at the Provincial Mental Institution, Oliver, were completed.

The new Laundry Building is located north of the kitchen, and is connected to the corridor system of the institution through the existing Ward No. 6. This latter building will be converted into sewing and mending rooms to be used in conjunction with the Laundry Building. The Laundry Building is a steel frame building on reinforced concrete foundations. The exterior walls are of brick and concrete block of the insulated cavity type construction. The roof is built-up with rigid insulation over steel roof deck. All interior wall surfaces are in glazed concrete block for cleanliness and easy maintenance. The large windows with insulating double glazed units are providing ample natural lighting for all working areas. The floors are of quarry tile throughout with acid and alkali proof grouting in the laundry area proper. The building has a partial basement and crawl space for the distribution of services and to house the water softening equipment. On the mezzanine floor are located the ventilation equipment providing the required amount of air changes in the



The addition to the Nurses' Residence at Oliver Mental Institution.



The Nurses' Residence at Ponoka Mental Hospital, shown at completion.



building. The existing laundry equipment has been supplemented with the addition of new equipment and a small dry cleaning plant. An overhead crane and electric hoist makes the laundry operations entirely automatic.

Also at the Provincial Mental Institution, work has been completed on an addition to the Nurses' Residence. This building is a frame structure with concrete foundation. The exterior finish is stucco face brick, with bathroom facilities, a matron's suite, and for the nurses' use, a kitchen and sittingroom. Double bedrooms are located on the second floor with bathroom facilities. The addition is connected to the existing building by a corridor on each floor.

### PONOKA

Major construction was carried out at the Provincial Mental Hospital during this year.

The Power House, which has been in operation for many years, was expanded to meet the needs of this ever-growing plant.

The Nurses' Residence was completed this year. The building is of wood frame construction, with concrete basement walls, flat roof, and stucco exterior finish, and also face brick veneer. The accommodation consists of basement, lecture rooms, library, laboratory, washroom and cloakroom facilities. The first and second floors have single and double bedrooms, bathroom facilities and living room.

The building containing Wards 4, 5 and 6 has been completely renovated. This was a major construction problem, but by doing this renovation, adequate accommodation has been provided for patients at a much lesser cost and two years in advance of construction of a new building to replace the existing structure. This construction programme required a great deal of co-ordination on the part of the Department of Public Health and the Department of Public Works in order that patients would be inconvenienced to a minimum. The original four storey brick building was erected in 1914. Each floor consisted of a large day room and a dormitory with toilets and bathing facilities. The entire building was completely inadequate for the requirements of the new trends in psychiatry, and remodelling of all floors was the only solution, rather than building a new ward. The work was commenced in May 1959 with the demolition of all interior partitions, removal of plumbing and heating piping, and millwork. Then all floors, except basement, were divided up into small bedrooms for eight to ten patients in each. Kitchenettes, lockers for personal belongings, medical offices, and visitors' rooms were provided. In all bathrooms, bathtubs were installed in alcoves. Showers also were built-in in all tiled bathrooms. Small size day rooms were built to separate the patients in various mental states. For the milder cases, a new and bright day room was added at each floor. In the basement, additional dining and serving facilities were provided. Also occupational therapy rooms were

provided. All four floors were refinished in their entirety, plastering, painting, floor covering, millwork, plumbing, heating and electrical. The entire work was carried out by Department of Public Works crews.

### **RED DEER**

Construction at the Deerhome Institution saw the completion of Dormitories 4 and 6. The two dormitories are of identical construction, except that Dormitory No. 6 is to be used as an Infirmary, while Dormitory No. 4 is to be used for wards. The dormitories are steel framed structures with hollow clay tile interior walls and exterior walls of hollow clay tile back-up with face brick veneer.

Also completed at the Deerhome Institution was a new Women's Staff Building of light steel frame, with all interior partitions of wood. The exterior finish is of stucco and face brick veneer. The building will provide accommodation as follows: basement, recreation room, laundry, storage rooms, washroom facilities. The first and second floors have reception rooms, lounges and bed-sittingrooms.

A new office building was built on Highway No. 2 south of the City of Red Deer to accommodate the Oil Conservation Board. This is a one storey structure of wood frame.

A weigh scale was constructed north of Red Deer for the Department of Highways, Highway Traffic Board.

### **ROCKY MOUNTAIN HOUSE**

A four stall garage was completed for the Department of Lands and Forests at Rocky Mountain House.

### **SLAVE LAKE**

A ten stall garage was completed this year at the Ranger Station site at this point.

### **ALBERTA LIQUOR CONTROL BOARD**

This Department has carried out in the past year several projects for rural retail outlets for the Alberta Liquor Control Board.

These buildings, costing in the neighbourhood of \$30,000.00, are of varied design, basically of concrete block construction. Large amounts of glass were used on the main elevation to make them bright and airy.

These buildings are located at the following centres:

Boyle	Thorsby
Calgary — North Hill	Edmonton — 98th Street
Fort Saskatchewan	Hardisty



## **MECHANICAL BRANCH**

This report covers the operation and maintenance of ten Government Power Plants and four Government Heating Plants and the supply and maintenance of utility services at these major Provincial Institutions. This number of plants, totalling fourteen, includes the addition of two, namely, Public Works South Power Plant, Edmonton, and the Alberta Institution for Girls, Belmont, heating plant, since last year's report.

The attached operating statistical sheets show generally some increase in utility services output for the plants. The greater increased operating costs are, however, due largely to higher fuel costs as a result of higher natural gas billing rate schedules that went into effect early last fiscal year.

The following notes refer briefly to maintenance, renovation and new installation capital expenditure which is greatly reduced from the previous year.

### **Legislative Buildings — Edmonton**

Installation of the new 1,000 KVA capacity steam turbo-alternator has been completed and the unit went into operation on July 30, 1959.

A lube oil purifier for the turbine and feedwater filters for the plant boilers have been purchased and installed.

### **Provincial Institute of Technology & Art — Calgary**

Installation of the new 750 KVA capacity steam turbo-alternator has been completed and the unit went into operation on November 18, 1959.

A major brickwork repair job on No.'s 1 and 2 Goldie-McCulloch boilers has been completed and these settings are now in good condition.

### **Provincial Mental Hospital — Ponoka**

Renovation of the power plant is progressing in conjunction with overall project of kitchen-bakery extension and power plant addition. All services to the institution are being maintained regardless of project work.

Some new and replacement maintenance shop equipment (pedestal grinder, lathe chuck, etc.) have been purchased.

### **Provincial Gaol — Fort Saskatchewan**

The replacement storage type water heater purchased last year has now been installed and a further needed heater pur-

chased. This latter heater, when installed, will provide adequate capacity for some time.

An air compressor unit and bench drill for plant maintenance shop has been purchased and installed.

### **Provincial Gaol — Lethbridge**

A partial replacement of obsolete flush valves in the cell block has been effected. The original plumbing in the building is about fifty years old.

Operating conditions in the power plant engine room have been improved by the installation of a suitable exhaust ventilating fan.

### **Provincial Mental Institute — Oliver**

A new storage type water heater and controls has been purchased and installation completed. This heater replaces one installed some thirty years ago.

An additional zeolite water softener unit has been purchased and installed to "duplex" the existing softener and provide continuity of service.

### **Baker Memorial Sanatorium — Calgary**

Needed replacement and additional capacity water softener units have been purchased and installed in the plant.

A new 5,000 gallon fuel oil storage tank has been purchased and installed. This tank replaces two old small H.R.T. boiler drums converted to oil storage use back in the mid-1920's and now no longer serviceable.

### **Provincial Training School — Red Deer**

Installation of the new 25,000 P.P.H. boiler and auxiliary equipment has been completed. This boiler was prematurely put into service the preceding winter to meet steam demand. Plant boiler capacity is now adequate for sometime.

Capital funds have been provided by the Department for addition to the engine room and new switchboard installation. The project is progressing.

### **Deerhome Institution — Red Deer**

Some alteration of returns receiver, piping and installation of apparatus has been effected to combat corrosion in the heating system.

An electric welder has been purchased for plant and other maintenance work.



**Public Works South Power Plant — Edmonton**

As previously stated, this is a new power plant. It is located just south of the Edmonton Jubilee Auditorium and is destined to ultimately serve the total University of Alberta and hospital area with steam heat and power. The present building houses a 2200 KW gas turbine alternator unit with 10,000 P.P.H. waste heat boiler, switchboard and all auxiliary equipment. Space is allocated for future steam turbines.

**Heating Plants — Edmonton, Bowden, Camrose**

The Belmont Rehabilitation Centre and Bowden Institution heating plants are quite new and work requirement of our staff at these plants for the past year has been only normal operation and maintenance.

The heating plant of the Alberta Institution for Girls, located adjacent to the Belmont Rehabilitation Centre, is as previously mentioned, a new plant. It supplies steam to the institution for building heating, water heating and kitchen use. It is connected to the water tower and sewage treatment plant of the Rehabilitation Centre for water supply and sewage disposal. Complete operation of the plant is under direction of our Engineer-in-Charge at the Rehabilitation Centre.

The boiler plant at Rosehaven, Camrose, although presently adequate and maintained in good operation, is located in the basement of the old original building, includes the original heating boilers of 1914 installation and has no room for expansion. Any further new building construction at the institution would necessitate consideration of a new plant.

F. E. COE,  
Mechanical Superintendent.

August 12th, 1960.

**GAS, WATER AND POWER CONSUMPTION**  
at the four below mentioned Heating Plants

under the jurisdiction of the

**MECHANICAL BRANCH, DEPARTMENT OF PUBLIC WORKS**

for period April 1, 1959 to March 31, 1960.

	GAS (cu. ft.)	WATER (Imp. Gallons)	POWER (Kilowatt Hours)	EXPENDITURE Plant Operation and Maintenance
Rosehaven Home, Camrose .....	47,503,000	14,899,844	644,009	\$ 72,469.00
Bowden Institution, Bowden .....	39,849,000	11,849,140	916,150	71,613.66
Belmont Rehabilitation Centre, Belmont .....	25,489,000	3,234,531	394,800	47,300.37
Alberta Institution for Girls, Belmont .....	17,969,000	3,234,531	296,240	32,173.91
	<hr/> 130,810,000	<hr/> 33,218,046	<hr/> 2,251,199	<hr/> \$223,556.94
Total Gas Used .....	130,810,000 Cubic Feet			
Total Water Used .....	33,218,046 Imperial Gallons			
Total Electricity Used .....	2,251,199 Kilowatt Hours			

# PROVINCIAL GOVERNMENT POWER PLANT STATISTICS

for the year ending March 31, 1960

Location of Plant	WATER			ELECTRICITY		STEAM OUTPUT	
	Coal (Tons)	Gas (cu. ft.)	Pumped from Local Sources (Imperial Gallons)	Purchased (Imperial Gallons)	Generated (Kilowatt Hours)	To Building Heating (Pounds)	To Other Plant Operation & Institutional Maintenance
Legislative Buildings and Administration Buildings, Edmonton	—	263,029,000	—	47,378,737	5,700,600	4,047,800	145,675,000
Provincial Institute of Technology & Art, Calgary	—	128,832,000	—	22,792,000	795,450	2,556,000	17,561,000
Provincial Mental Hospital, Ponoka	—	193,443,000	69,453,000	—	279,600	1,514,800	42,480,000
Provincial Gaol, Fort Saskatchewan	—	60,814,000	38,581,000	—	513,100	293,100	9,193,000
Provincial Gaol, Lethbridge	—	48,476,000	—	37,190,010	384,430	12,880	27,391,000
Provincial Mental Institute, Oliver	—	235,199,000	—	70,591,425	3,147,900	—	148,528,000
Baker Memorial Sanatorium, Calgary	—	76,506,000	21,976,000	—	658,830	63,380	41,922,000
Provincial Training School, Red Deer	—	102,500,000	—	32,901,812	1,116,560	206,000	57,017,000
Deerhome Institution, Red Deer	—	81,804,000	—	20,460,000	—	1,776,800	47,229,000
Public Works Power Plant, South of Auditorium, Edmonton. (Approx. 4 mos. operation)	—	752,000	—	324,188	7,700	2,500,000	115,000
	—	1,191,355,000	130,010,000	231,638,172	12,604,170	12,920,760	674,012,000
Total Gas Used	—	—	—	—	1,191,355,000	Cu. Ft.	—
Total Water Used	—	—	—	—	361,648,172	Imperial Gallons	—
Total Steam Generated	—	—	—	—	950,873,000	Lbs.	—
Total Electricity Used	—	—	—	—	25,524,930	Kilowatt Hours	—



## STATISTICS ON CAPITAL EXPENDITURES, PROVINCIAL GOVERNMENT POWER PLANTS

For Year Ending March 31, 1960

(F. E. Coe, Mechanical Superintendent)

	Oil Storage Tanks, Hot Water Storage Tanks, Pumps, Piping, Insulation, etc.	Generating Equipment & Foundations, Piping, Insulation, Wiring, etc.	Replacement of Old Service Lines, Heaters, Pumps, Controls, Pipe Covering, Wiring, etc.	Renovation & Extension P.M.H., Ponoka Power Plant consisting of moving all lines, Heater, Dealkalizer, Evaporators, Pumps, Softeners & other Allied Equipment	Power Plant Mechanical Equipment	Boiler Setting Repairs	Expenditure
Legislative Buildings and Administration		\$19,291.75	\$	\$	\$	\$	\$19,291.75
Buildings, Edmonton							
Provincial Institute of Technology & Art,		7,779.27				3,627.90	11,407.17
North Hill, Calgary				15,267.78	336.33		15,604.11
Provincial Mental Hospital, Ponoka					605.91		7,285.57
Provincial Gaol,			6,679.66				1,182.80
Fort Saskatchewan			1,182.80				5,606.83
Provincial Gaol, Lethbridge							4,083.74
Provincial Mental Institute, Oliver	5,606.83						17,828.72
Baker Memorial Sanatorium, Calgary	4,083.74						1,486.64
Provincial Training School, Red Deer	17,828.72						
Deerhome Institution, Red Deer	803.54				683.10		
	\$28,322.83	\$27,071.02	\$7,862.46	\$15,267.78	\$1,625.34	\$3,627.90	\$83,777.33



